

(D) REMARKS:

COUNTER TO REJECTION UNDER 35 U.S.C., paragraph 1112

Claims 14-19 were rejected by Examiner under 35 U.S.C., 102(b) as anticipated by Milgram et al. (U.S. Patent No. 5,175,616).

COUNTER TO REJECTION OF CLAIM 14

I have read U.S. Patent No. 5,175,616, and there is no alignment target as described in the pending application. Milgram uses two cameras to view objects of interest in the same way our two eyes work, stereoscopic vision. The shuttering spectacles 64 only shows the operator one camera image at a time, so the mind will better interpret depth and orientation of objects with the help of a pointer image generated in software. The pointer generator places optical features in the camera images by means of software — there are no real objects placed in the view such as a physical alignment target attached to an object.

In contrast, the position and orientation sensor consists of a physical alignment target (not software) that has real first and second optical features and is a real object placed in the field of view of the camera.

COUNTER TO REJECTION OF CLAIMS 15-19

Milgram does mention a crosshair but again it is in software not a physical object as in this invention.

Milgram does have a lens, camera, screen, monitor, and computer connected to the imaging device; however, these items only permit simple imaging of objects in the field of view and have all the limitations described by Milgram: limited distance and orientation information. Milgram addresses these limitations by using two cameras and additional hardware and software, but the stereoscopic system still does not provide high accuracy in determining the position or orientation of an object in the field of view.

In contrast, the position and orientation sensor uses a much different approach of attaching a real alignment target to the object of interest. Now, only one camera is necessary, and due to unique features of the alignment target, high accuracy in measuring all-three positions and all-three orientations is possible.

Conditional request for constructive assistance

If for any reason this application is not believed to be in full condition for allowance, applicant respectfully requests the constructive assistance and suggestions of the examiner pursuant to M.P.E.P. & 2173.02 and 707.070) in order that the undersigned can place this application in allowable condition as soon as possible and without the need for further proceedings.

Sincerely,

A handwritten signature in cursive script, reading "Charles S. Vann". The signature is fluid and elegant, with the first name "Charles" and last name "Vann" clearly distinguishable.

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